SHELUDKO, A.

Settling of aerosol particles on the walls in a closed space. I. Todorov and A. Sheludko (State Univ. Sofia, Bulgaria). *Kolloid. Zhur.* 19, 496–501 (1957).—The rate of settling due to simultaneous gravitation and diffusion in a sphere of radius a is least for particles whose wt. P is approx. $4kT/a$; k is Boltzmann's const., T = abs. temp. More precise equations for P as function of T, a, adherence coeff. α, and gas viscosity are derived. The relation between the rate of settling and particle radius depends little on α as long as this is >0.1.

J. J. Bikerman

SHELUDKO, A. D.; RADVINSKIY, M. B.;

"The resistance of free films and foams."

report presented at the Fourth All-Union Conference on Colloidal Chemistry, Tbilisi, Georgian SSR, 12-16 May 1958 (Koll zhur, 20,5, p.677-9, '58, Tanbman, A.B)

5(4),10(2) SOV/20-123-6-32/50

AUTHOR: Sheludko, A.

TITLE: The Spontaneous Thinning of Thin Double-Sided Liquid Films (Samoproizvol'noye utonchenive tonkikh dvustoronnikh zhidkikh plenok)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 6, pp 1074-1076 (USSR)

ABSTRACT: The investigated films had a thickness of between 0.2 and 0.03 μ. The thickness of the films was recorded automatically as a function of time by means of an interference microphotometer which was especially constructed by the author. A diagram shows the time dependence of the thickness of films of aniline and water in the coordinates $1/h^2 - 1/h_o^2$, $t - t_o$. h denotes the thickness of the film, t - the time, and h_o denotes the thickness in the instant of time t_o. The investigations gave the following result: Beginning with a thickness of 0.1 μ, the rate of thinning increases with respect to the rate given by the Reynolds (Reynol'ds) equation, and this difference continuously increases with the thickness of the film. There is no reason to assume, that the flowing out of the solution from the film

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The Spontaneous Thinning of Thin Double-Sided Liquid Films

(which is expressed by the above-mentioned Reynolds equation) is characterized by an other mechanism if the film becomes thinner than 0.1μ. According to the author's opinion, the acceleration of thinning with respect to the above-mentioned Reynolds equation is due to an additional pressure which in turn is due to far-range intermolecular forces. The formula of Frenkel' $\pi = -4\sigma\delta^2/h^3$ for the approximate calculation of this pressure can be applied in the present case. π denotes the above-mentioned pressure, σ - the surface tension of the liquid and it holds that $\delta = \sqrt[3]{v/N_A}$. v denotes the molecular volume, N_A Avogadro's number, and δ - the molecular diameter. The found curves $-\pi = f(h)$ are given in the coordinates $-\pi$, $1/h^3$ for aniline and water films. The curves of aniline satisfy the relation $-\pi \sim 1/h^3$. The curves $-\pi = f(h)$ do not agree with the theoretical curves. In this case, the found values of $-\pi$ are lower than the theoretical ones, and they

The Spontaneous Thinning of Thin Double-Sided Liquid Films

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increase more slowly than $-\pi \sim 1/h^3$ with the thickness of the film. All the measurements discussed in the present paper were carried out at room temperature (20°). The values of the surface tension and of viscosity were determined according to the usual methods. The dimensions of the films were determined photographically. There are 2 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Sofiyskogo gosudarstvennogo universiteta, Sofiya, Bolgariya (Institute of Physical Chemistry of the Sofiya State University, Sofiya, Bulgaria)

PRESENTED: June 26, 1958, by A. N. Frumkin, Academician

SUBMITTED: June 26, 1958

Card 3/3

[illegible] GDR, A.

[illegible] of nonmonomolecular layers [illegible] soluble and insoluble surface-[illegible] substances on the dissipation energy of stationary surface [illegible]. Dokl. AN SSSR 163 no.2:389-392 Ag '65.

(MIRA 18:8)

1. Institut fiz. khimii Nemetskoy Akademii nauk, Berlin, Nemetskaya Demokraticheskaya Respublika i Institut fizicheskoy [illegible] Bolgarskoy Akademii nauk, Sofiya. Submitted May 12, 1965.

SHELUDKO, A.D.

15(6)

AUTHOR: Rebinder, P. A., Academician SOV/30-59-1-5/57

TITLE: New Trends of Colloid Chemistry (Novyye puti razvitiya kolloidnoy khimii)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 44-51 (USSR)

ABSTRACT: At present, colloid chemistry plays an especially important part in political economy as it is a physical-chemical science concerning substances of modern engineering. It is of great practical importance that at present it is possible to carry on uninterrupted transitions from lyophobic to lyophilic systems. Thus, it is possible to obtain technically important substances with the required structural-mechanical properties. The theory of highly molecular substances and their solutions has developed into an independent branch of colloid chemistry. The vitality of modern colloid chemistry is proved by the fact that it produces many new independent branches of science. Further, the author describes the course of the 4th All-Union Conference of Colloid Chemistry which took place in Tbilisi on May 13-16, 1958. It was organized by the Otdeleniye khimicheskikh ...

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...

N. N. Natanson (Kiyev) reported on the present state of research in the field of colloid metals.
A. D. Sheludko (Bulgaria) determined theoretically and experimentally the regularities of syneresis in foams.
N. P. Vollarovich with collaborators spoke about the results of examination of water properties and structure of peat by means of radioactive isotopes.
N. Ye. Shishniashvili considered questions of adsorption and chemosorption of electrolytes in colloid dispersion systems.
B. V. Deryagin and his collaborators reported on the development of the electrostatic stability theory as well as the coagulation of dispersion systems, and on the theory of formation and the properties of aerosols.
L. Ya. Kremnev, A. B. Taubman reported on the role of the structural-mechanical barrier as a factor of practical guarantee for a full stabilization of dispersion systems, as P. A. Rebinder showed it in his investigations (Ref 1).
V. G. Levich theoretically showed that an increased viscosity of the protective coverings of the stabilizer is sufficient to prevent a coagulation of particles.

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M. M. Dubinin and his pupils dedicated a series of reports to examinations in the field of structural characteristics.
A. N. Frumkin with collaborators examined new appearances of adsorption in the theory of electrode processes.
B. A. Dogadkin, A. Ya. Korolev discussed questions of adsorptive interaction of active fillers with polymers, as well as of the chemical modification of the surfaces of solid particles (soot).
Ye. Ye. Segalova, P. A. Rebinder and collaborators reported on the clarification of the process of formation of crystallization structure in the hardening of mineral binding agents.
S. M. Horizman showed that the appearance of high elasticity is connected with the formation of dispersion structure.
L. S. Palatnik (Khar'kov) examined the colloidal state of aging alloys in thin films and massive samples.
Ye. D. Shchukin, V. V. Yudina clarified the theoretical criteria of spontaneous dispersion of solid bodies, especially metals, in surface-active surroundings.
V. I. Likhtman reported on the appearance of adsorptive plastification of lead and tin at normal temperatures.
L. A. Kozarovitskiy and collaborators examined the influence of rheological properties of printing colors on their behavior in the printing process.
I. M. Vlodavets reported on the regulation of crystallization and coagulation structures in the production of best table-butter.

Card 4/6

5(4)

AUTHORS: Sheludko, A., Yekserova, D.

SOV/20-127-1-40/65

TITLE: On the Electrostatic Repulsion Between Diffuse Electric Layers in Bilateral Liquid Films (Ob elektrostaticheskom ottalkivanii mezhdu diffuznymi elektricheskimi sloyami v dvustoronnikh zhidkikh plenkakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 1, pp 149-151 (USSR)

ABSTRACT: The investigations by O. Bartsch (Ref 1) showed the influence of electrolytes on the life span of foams and permitted the assumption of a repulsion taking place between the diffuse electric layers of the surface in bilateral water films. B. V. Deryagin and A. S. Titiyevskaya were the first to measure the repulsion of these layers directly (Ref 2), and computed the potential as amounting to 50 - 80 mv. The electrolyte content, however, was not safely ascertained. An additional investigation was therefore required, mainly because other additional expansion pressures were to be reckoned with in thin films, to be added to the electrostatic pressure. The following relation was derived by B. V. Deryagin and L. D. Landau (Ref 3) concerning the electrostatic expansion pressure:

$\Pi_{electr} = 2\pi nkT(ch\frac{e}{kT}\varphi_\alpha - 1)$ for a 1 - 1 - valent dissociated electrolyte with the concentration n molecules in 1 cm^3. k = Boltzmann constant, T = temperature, e = ion charge, φ_α = the potential in the center of the film. On the assumption that the electric field of the one film surface is not deformed by the field of the opposite surface, and the surface potential φ_o as well as the dielectric constant ϵ do not depend on the film thickness, it holds for the film thickness:

$h = 2\sqrt{\frac{\epsilon kT}{8\pi ne^2}} \ln\frac{\gamma_{\varphi_o}}{\gamma_{\varphi_\alpha}}$. Figure 1 shows the dependence of the thickness h on lgC (C = concentration of the electrolyte in mol/l). The investigation was carried out with an apparatus described in reference 5. h was measured with respect to solutions of KCl, $BaCl_2$ and $La(NO_3)_3$ in concentrations of the

magnitude of 10^{-4} mol/l. Owing to the saponin used as stabilizer, the computed conductivity had to be corrected. For KCl solutions the corrections are given in table 1. π_{electr} was kept at a constant 730 during measurement. For two binary electrolytes with the valencies Z_1 and Z_2 it holds:

$\frac{h_1}{h_2} = \frac{Z_2}{Z_1}$. The measured film thicknesses correspond to this condition. It follows for films of a thickness exceeding 0.05μ that no additional measurable expansion pressure components occur, despite the fact that a negative expansion pressure was to be reckoned with in consideration of the London interaction between the water molecules in the case of 0.1μ films. This negative expansion pressure was found as well in KCl concentrations of 0.1 mol/l, although to a lower degree than would correspond to theory. In the low electrolyte concentrations investigated, the van der Waals expansion pressure is

supposed to have been below the measuring limit, while it becomes apparent with higher electrolyte concentrations. This aspect is now being investigated. There are 1 figure, 1 table, and 7 references, 5 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Bolgarskoy Akademii nauk (Institute of Physical Chemistry of the Bulgarian Academy of Sciences)

PRESENTED: March 7, 1959, by A. N. Frumkin, Academician

SUBMITTED: February 27, 1959

SHELUDKO, Aleksey; SOLOMAKHIN, N.I. [translator]; DERYAGIN, B.V., red.; VOYUTSKIY, S.S., prof., red.; KHODETSKAYA, Z.F., red.; RYBKINA, V.P., tekhn.red.

[Colloid chemistry] Kolloidnaia khimiia. Pod red. B.V.Deriagina i S.S.Voiutskogo. Moskva, Izd-vo inostr.lit-ry, 1960. 332 p. Translated from the Bulgarian. (MIRA 14:3)

1. Chlen-korrespondent AN SSSR (for Deryagin).
(Colloids)

SHELUDKO, A.; EKSEROVA, D.

A study of foam films of water solution of butyric acid. Izv Inst khim BAN 7 105-113 '60. (EEAI 10:9)

1. Sofiiski universitet, katedra po fizikokhimiia.

(Foam) (Butyric acid) (Films) (Water)
(Solutions)

SHELUDKO, A.; EKSEROVA, D.

On the positive disjoining pressure in double-sided films from solutions. Godishnik khim 54 no.3:205-211 1959/60 (pub. '61)
(EEAI 10:9)

(Capillarity) (Pressure)

SHELUDKO, A.; PLATIKANOV, D.

Study of thin liquid films of mercury surface. Godishnik khim 54 no.3:213-228 1959/60 (pub. '61) (EEAI 10:9)

(Thin films) (Mercury)

SHELUDKO, A.

On the influence of the alternating electric field on the opalescence of colloidal solutions; a preliminary communication. Godishnik khim 54 no.3:229-231 1959/60 (pub. '61) (EEAI 10:9)

(Electric fields) (Opalescence) (Colloids)

SHELUDKO, A.; EKSEROVA, D.

Electrostatic pressure in foam films of water solutions of electrolytes. Izv Inst khim BAN 7:115-121 '60.
(EEAI 10:9)

(Foam) (Electrolytes) (Films) (Water)
(Solutions)

SHELUDKO, A.; EKSEROVA, D.

Instrument for interferometric measuring of the thickness of microscopic foam layers. Izv Inst khim BAN 7:123-132 '60. (EEAI 10:9)

(Interferometer) (Foam)

SHELUDKO, A.

Twenty five years since the establishment of the laboratory for investigating the surface phenomena at the Institute of Physical Chemistry in the Soviet Russia. Spisanie BAN 6 no.2:112-113 '61.

SHELUDKO, A.; PLATIKANOV, D.

Investigating thin benzene layers on the surface of mercury. Dokl. AN SSSR 138 no.2:415-418 My '61. (MIRA 14:5)

1. Institut fizicheskoy khimii Bolgarskoy Akademii nauk. Predstavleno akademikom A.N.Frumkinym.

(Benzene) (Mercury)

EKSEROVA, D.; SHELUDKO, A., prof.

Relations between the concentration of the black spot formation in microscopic oam films and the depenedence of the surface tension on the concentration of the detergent. Izv Inst fiz khim 3 79-87 '63.

1. Institut po fizikokhimiia pri Bulgarskata akademiia na naukite.
2. Chlen na Redaktsionnata kolegiia, "Izvestiia na Instituta po fizikokhimiia" (for Sheludko).

SHELUDKO, A.; YEKSEROVA, D.; PLATIKANOV, D.

Kinetics of the thinning and rupture of thin films of liquid.
Koll.zhur. 25 no.5:606-612 S-O '63. (MIRA 16:10)

1. Institut fizicheskoy khimii Bolgarskoy Akademii nauk i Kafedra fizicheskoy khimii Sofiyskogo universiteta.

[redacted], A., prof.

A conference on the chemistry and physics of surface-active substances at Karl Marx Stadt. Spisanie BAN 9 no. 1/2-139 '64.

SHELUDKO, A.G. (Moskva)

Some systems for the programmed control of semiautomatic machinery in the clothing industry. Shvein. prom. no.3:23-27 My-Je '55. (MIRA 18:9)

SHELUD'KO, A.V.

Mechanism of alkaline hydrolysis of the benzylidene derivatives of pseudothiohydantoin. Farmatsev. zhur. 16 no. 2:21-25 '61.
(MIRA 14:4)

1. Kafedra farmatsevticheskoy khimii L'vovskogo meditsinskogo instituta, zav. kafedroy prof. M.M. Turkevich.
(THIAZOLIDINEDIONE)

SHELUD'KO, B.M.; BACHMANOVA, N.I.; DOMNICH, M.A.; LUTSET, P.G.

First and second attestations of pharmaceutists in Odessa Province. Apt. delo 12 no.5:56-59 S-O'63 (MIRA 16:11)

*

SHELUD'KO, I.

Control over the distribution of collective farm monetary income.
Den. i kred. 20 no.10:66-69 O '62. (MIRA 15:12)

1. Zamestitel' upravlyayushchego Poltavskoy kontoroy Gosbanka.
(Poltava Province—Collective farms—Income distribution)

SHELUD'KO, I.I., mekhanik

Self-propelled truck for straw. Mekh. sil'. hosp. 11 no.5:16-17 My '60. (MIRA 14:3)

1. Kolkhoz im. Stalina, Veliko-Belozerskogo rayona, Zaporozhskoy oblasti.

(Farm equipment)

S[illegible]KO, T. M.

The operation of the GAZ-42 automobile with peat fuel Kyiv, Ukr. derzh. vyd-vo, 1945. 50 p. (50-23452)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549020009-1"

KIRAKOVSKIY, N.F., dotsent; GLAGOLEV, N.M., professor; SHELUD'KO, I.M., dotsent, redaktor; SERDYUK, V.K., inzhener, redaktor; RUDENSKIY, Ye. V., tekhnicheskiy redaktor.

[Stationary internal combustion engines; operation, adjustment, testing. A reference manual] Statsionarnye dvigateli vnutrennego sgoraniia; kontrol', naladka, isputanie. Spravochnoe rukovodstvo. Kiev, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, Ukrainskoe otd-nie, 1955. 402 p. (MLRA 8:11)
(Gas and oil engines)

SHELUD'KO, Ivan Mikhaylovich; LABUTIN, Aleksandr Alekseyevich; SHCHEKINA, Galina Afanas'yevna; TUROVSKIY, B.redaktor; ZELENKOVA, Ye.tekhnicheskiy redaktor

[Heat power engineering equipment for machine-tractor stations] Teploenergeticheskoe oborudovanie MTS; spravochnoe posobie. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1956. 202 p. (MLRA 10:4)

(Heat engines) (Machine-tractor stations)

KIRAKOVSKIY, Nikolay Feliksovich; CHUDNOVSKIY, S.V., inzhener, retsenzent; SHELUD'KO, I.M., kandidat tekhnicheskikh nauk, redaktor; SERDYUK, V.K., inzhener, redaktor izdatel'stva; RUDENSKIY, Ya.V., tekhnicheskiy redaktor

[Internal combustion engines; a manual for mechanics] Dvigateli vnutrennego sgoraniia; rukovodstvo dlia mashinistov. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 307 p. (MIRA 10:1)
(Gas and oil engines)

SHELUD'KO, I., kandidat tekhnicheskikh nauk; LUSHCHEVSKIY, B., inzhener.

Gas-fired water heater. Zhil.-kom.khoz. 6 no.5:26-28 '56.
(Water heaters) (MLRA 9:11)

SHELJUD'KO, Ivan Mikhaylovich, dotsent, kand.tekhn.nauk; KOMENDANT, K., red.; KOVAL'CHUK, G., tekhn.red.

[New gas heaters] Novye gazovye otopitel'nye pribory. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit.USSR, 1960. 52 p. (Gas--Heating and cooking) (MIRA 13:9)

SHVETS, Ivan Trofimovich, prof.; KONDAK, Mikhail Andrianovich, prof.; KIRAKOVSKIY, Nikolay Feliksovich, dotsent; NEDUZHIY, Ivan Afanas'yevich, dotsent; SHEVTSOV, Dmitriy Semenovich, dotsent; SHELUD'KO, Ivan Mikhaylovich, dotsent; PETRENKO, S.I., dotsent, kand.tekhn.nauk, retsenzent; SERDYUKOV, P.T., inzh., red.; ONISHCHENKO, N.P., inzh., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn.red.

[Heat engineering] Obshchaia teplotekhnika. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 459 p. (MIRA 14:3)

(Heat engineering)

LUK'YANENKO, Ivan Nikandrovich [Luk'ianenko, I.N.]; MOSKOVCHENKO, Viktor Ivanovich; SHELUD'KO, Ivan Mikhaylovich, dots. kand. tekhn. nauk; GONCHAR, A.S. [Honchar, A.S.], red.; BOYKO, V.P. [Boiko, V.P.], tekhn. red.

[Kilns and drying apparatus used in the ceramic industry; examples of designs] Pechi ta susharky keramichnoi promyslovosti; pryklady rozrakhunkiv. Kyiv, Derzh. vyd-vo lit-ry z budivnytstva i arkhit. URSR, 1961. 198 p. (MIRA 15:3)

(Ceramic industries) (Kilns) (Drying apparatus)

SHELUD'KO, I.M., kand. tekhn. nauk, dots.; GNYP, P.I.[Hnyp, P.I.], kand. tekhn. nauk, dots.; MARINICHENKO, V.G.[Marynychenko, V.H.], kand. filol. nauk; SHVETS, I.T., akademik, otv. red.; KIL'CHEVSKIY, I.O.[Kil'cheva'kyi, I.O.], kand. filol. nauk, red.-leksikograf; STETSENKO, V.D., red. izd-va; ROZENTSVEYG, IE.N. [Rozentsveih, IE.N.], tekhn. red.

[Russian-Ukrainina dictionary on heat and gas engineering. 32, 000 terms]Rosiis'ko-ukrains'kyi slovnyk z teplotekhniky ta gazotekhniky. 32 000 terminiv. Vidpovidal'nyi red. I.T.Shvets'. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 308 p. (MIRA 16:2)

1. Akademiya nauk Ukr. SSSR (for Shvets').
(Russian language--Dictionaries--Ukrainian)
(Heat engineering--Dictionaries)
(Gas engineering--Dictionaries)

SHVETS, Ivan Trofimovich, prof.; TOLOPINSKIY, Vladislav Ivanovich, prof.; KIRAKOVSKIY, Nikolay Feliksovich, dots.; NEDUZHIY, Ivan Afanas'yevich, dots.; SHELUD'KO, Ivan Mikhaylovich, dots.; VOZNESENSKIY, A.A., prof., retsenzent; LABUTIN, A.A., spets. red.; BALYASNAYA, A.Ye., red.

[General heat engineering] Obshchaia teplotekhnika. [By] I.T.Shvets i dr. Kiev, Izd-vo Kievskogo univ., 1963. 562 p. (MIRA 17:10)

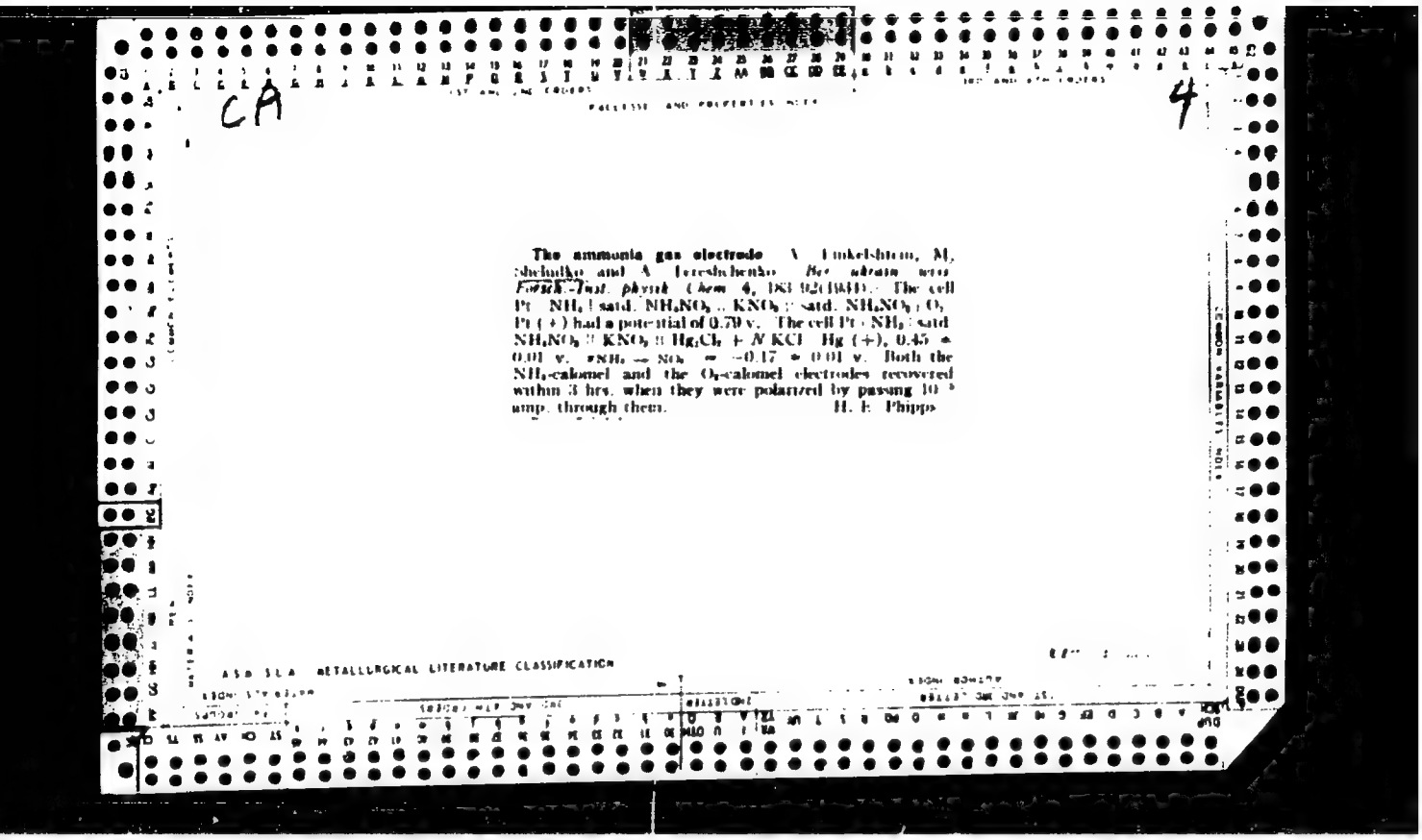
DIATYAN, G. [Diatian, H.], arkhitektor; SHELUD'KO, L., inzh.

Gigantic gider. Znan. ta pratsia no.10:23 O '61.
(MIRA 14:8)

(Ukraine—Factories—Design and construction)

The ammonia gas electrode V Finkel'shtein, M. Shulud'ko, and A. Tereshchenko *Acta Physicochim U. R. S. S.* 1, 805 10(1934)(in German) See C. A. 29, 3920⁶

F. H. Rathmann



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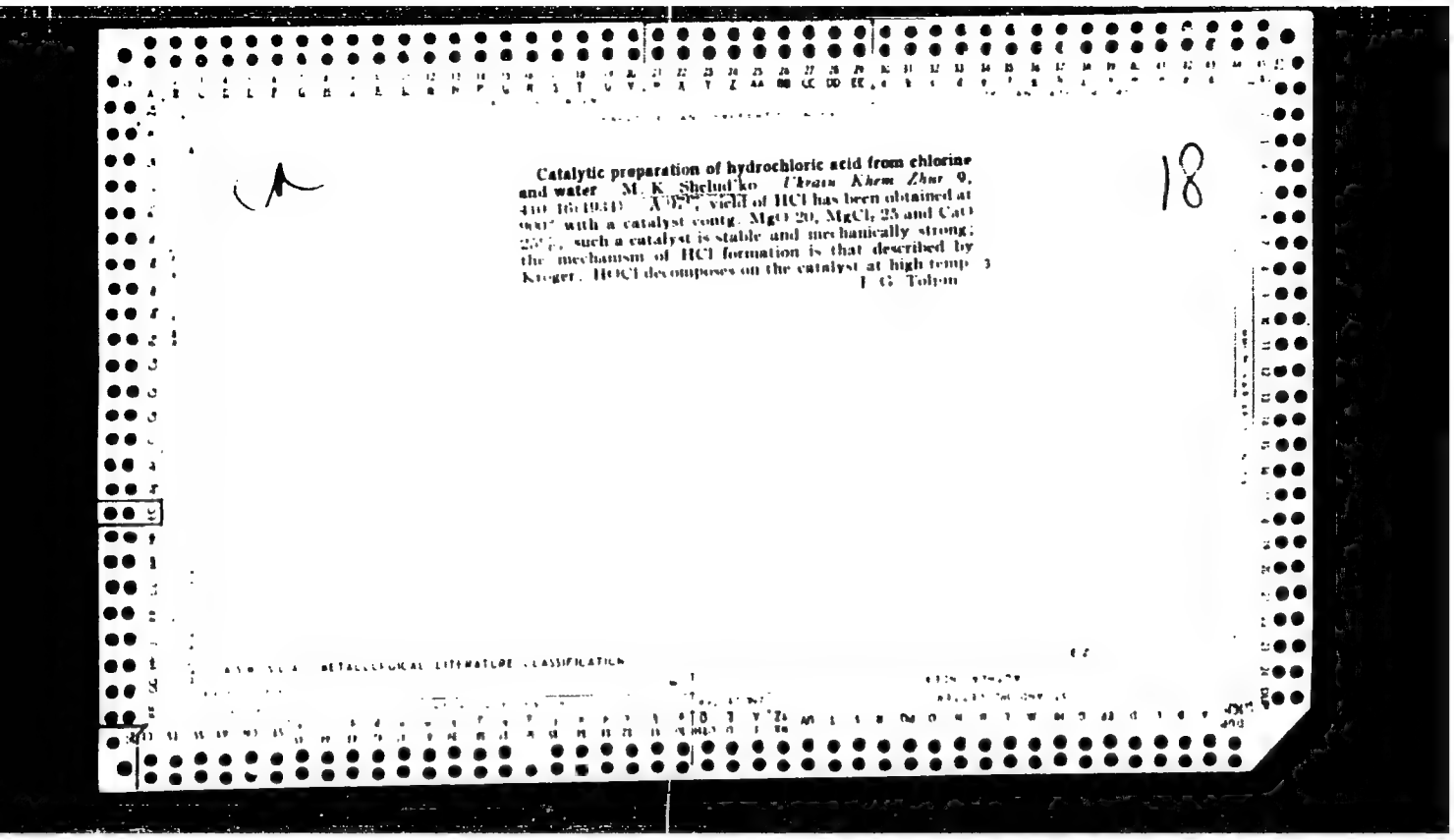
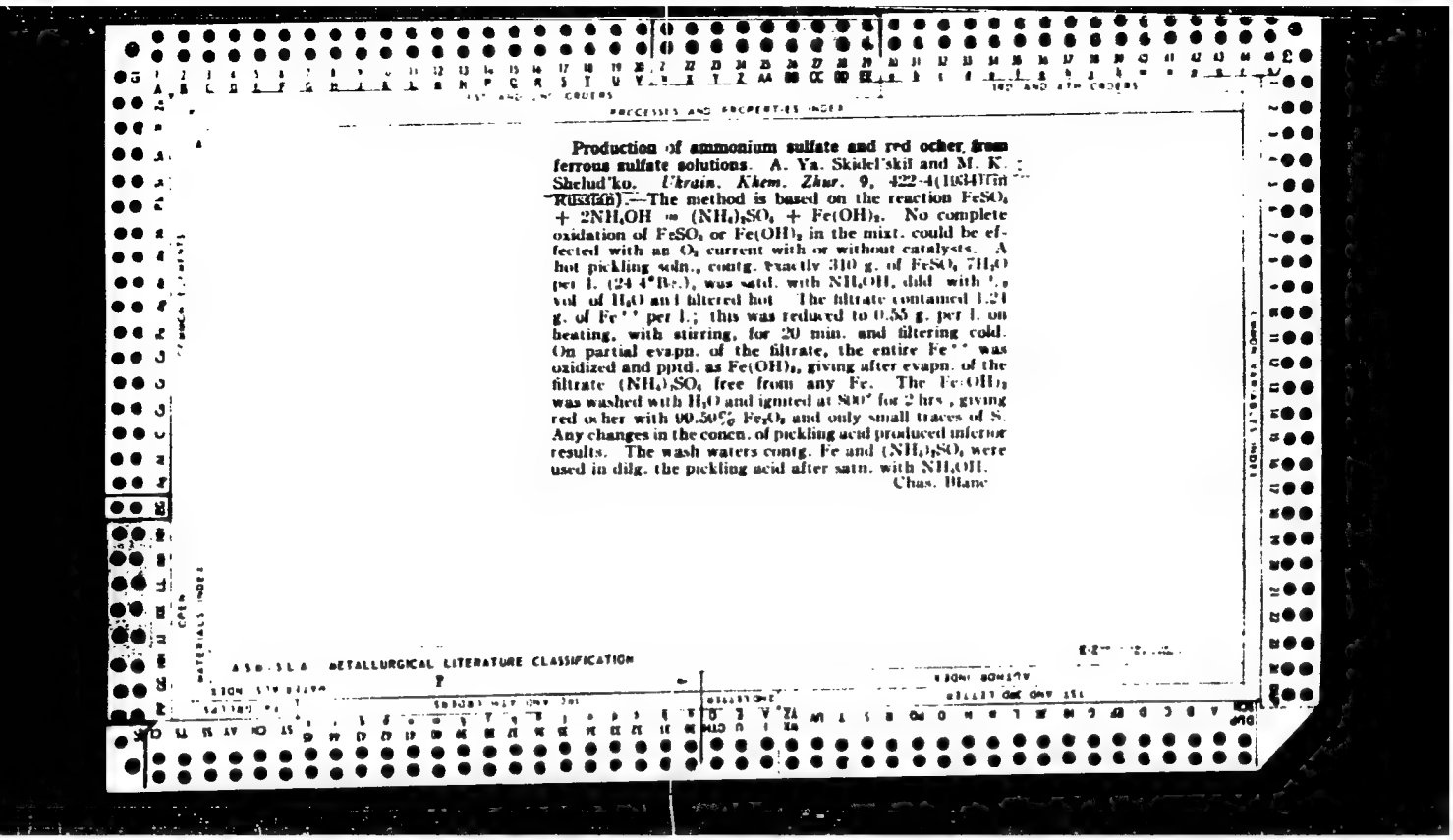
The ammonia gas electrode. V. Tokelshtein, M. Shchukin and A. Tereshchenko. *Zhur. obshchei khim.* 6, 1831-9(1936).—The cell Pt | NH_3 | satd. NH_4NO_3 + KNO_3 || satd. NH_4NO_3 + KNO_3 + Hg_2Cl_2 + *N* KCl | Hg (+) had a potential of 0.70 v. The cell Pt | NH_3 | satd. NH_4NO_3 + KNO_3 || Hg_2Cl_2 + *N* KCl | Hg (+), 0.45 ± 0.01 v. $\pi_{NH_3} - \pi_{O_2} = -0.17 \pm 0.01$ v. Both the NH_3-calomel and the O_2-calomel electrodes recovered within 3 hrs. when they were polarized by passing 10^{-5} amp. through them. H. E. Phipps

ASD SLA METALLURGICAL LITERATURE CLASSIFICATION



Catalytic preparation of hydrochloric acid from chlorine and water. M. K. Shelud'ko. *Ukrain. Khem. Zhur.* 9, 410-16 (1934). A 97% yield of HCl has been obtained at 400° with a catalyst contg. MgO 20, $MgCl_2$ 25 and $CaCl_2$ 55%; such a catalyst is stable and mechanically strong; the mechanism of HCl formation is that described by Kroger. HOCl decomposes on the catalyst at high temp. F. G. Tolpin

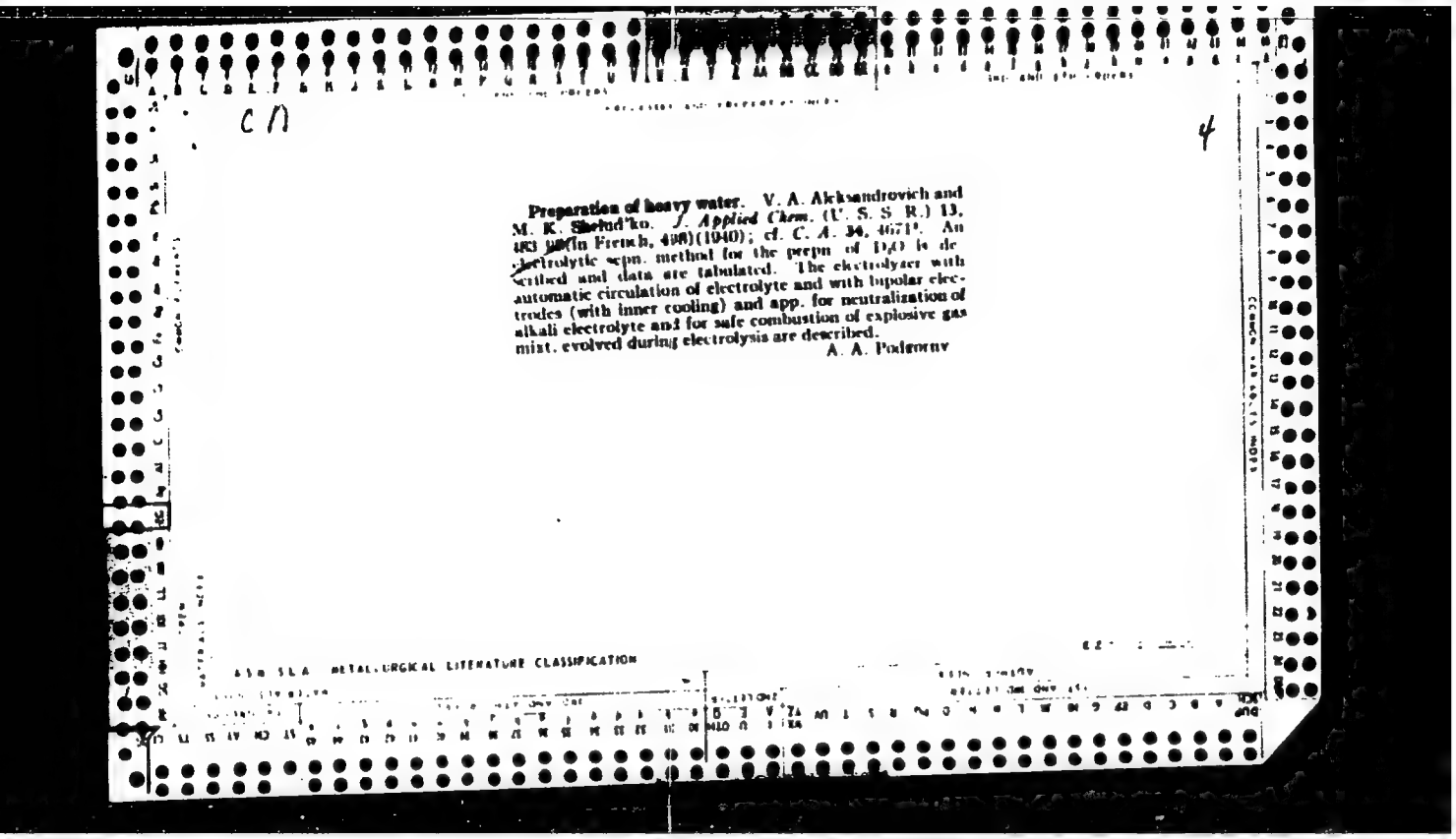


PROCESSES AND PROPERTIES INDEX

Production of ammonium sulfate and red ocher from ferrous sulfate solutions. A. Ya. Skidel'skii and M. K. Shchud'ko. *Ukrain. Khem. Zhur.* 9, 422-4(1934)[in Russian].—The method is based on the reaction $FeSO_4 + 2NH_4OH = (NH_4)_2SO_4 + Fe(OH)_2$. No complete oxidation of $FeSO_4$ or $Fe(OH)_2$ in the mixt. could be effected with an O_2 current with or without catalysts. A hot pickling soln., contg. exactly 310 g. of $FeSO_4 \cdot 7H_2O$ per l. (24.4°Bé.), was satd. with NH_4OH, dild. with ½ vol. of H_2O and filtered hot. The filtrate contained 1.24 g. of Fe^{++} per l.; this was reduced to 0.55 g. per l. on heating, with stirring, for 20 min. and filtering cold. On partial evapn. of the filtrate, the entire Fe^{++} was oxidized and pptd. as $Fe(OH)_3$, giving after evapn. of the filtrate $(NH_4)_2SO_4$ free from any Fe. The $Fe(OH)_3$ was washed with H_2O and ignited at 800° for 2 hrs., giving red ocher with 99.50% Fe_2O_3 and only small traces of S. Any changes in the concn. of pickling acid produced inferior results. The wash waters contg. Fe and $(NH_4)_2SO_4$ were used in dilg. the pickling acid after satn. with NH_4OH.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C 11

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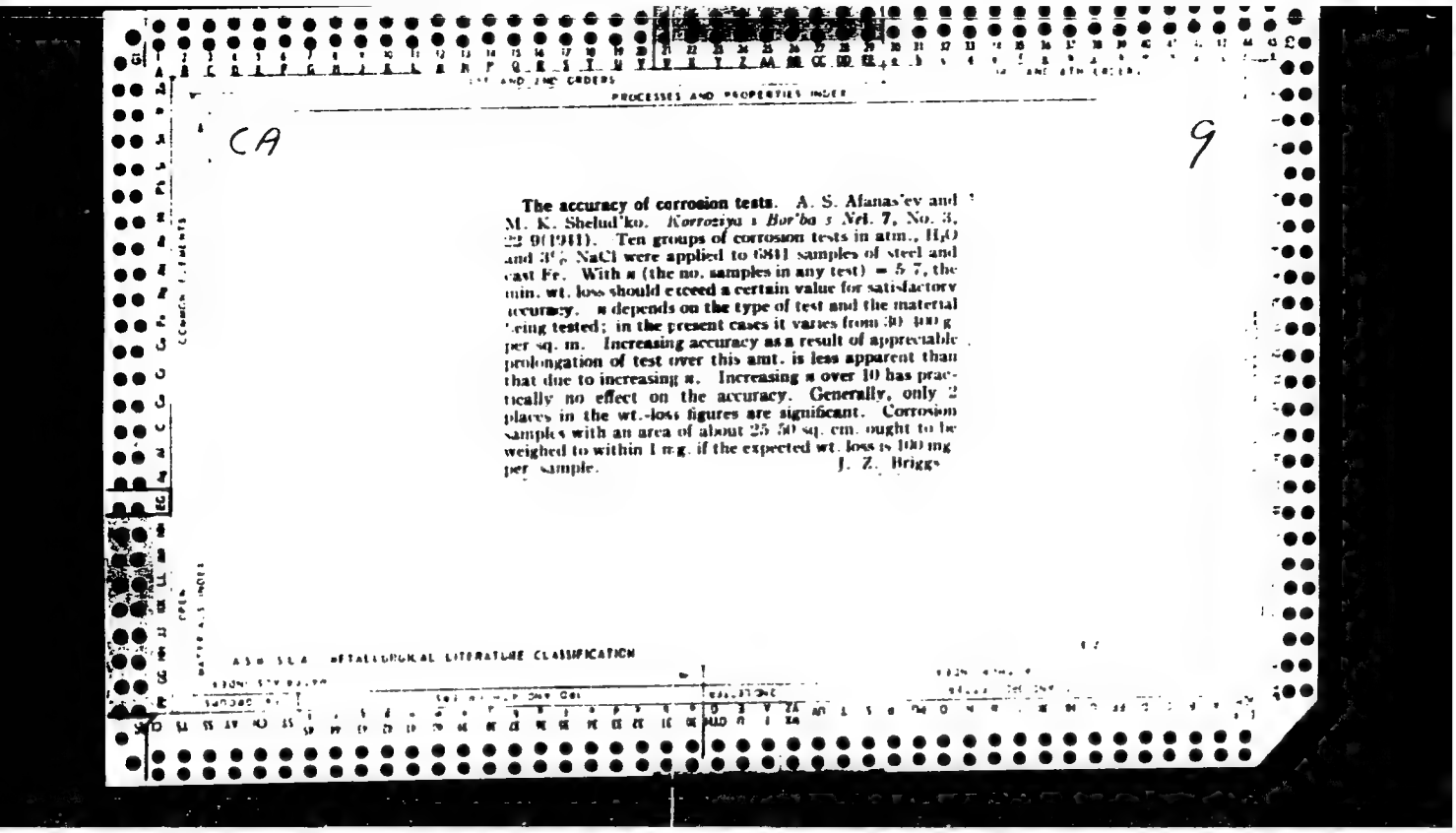
Preparation of heavy water. V. A. Aleksandrovich and M. K. Shefud'ko. *J. Applied Chem.* (U. S. S. R.) 13, 483-98 (in French, 498)(1940); cf. *C. A.* 34, 4671⁹. An electrolytic separation method for the preparation of D_2O is described and data are tabulated. The electrolyzer with automatic circulation of electrolyte and with bipolar electrodes (with inner cooling) and app. for neutralization of alkali electrolyte and for safe combustion of explosive gas mixt. evolved during electrolysis are described.

A. A. Polgrouv

A 5 0 S L A METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

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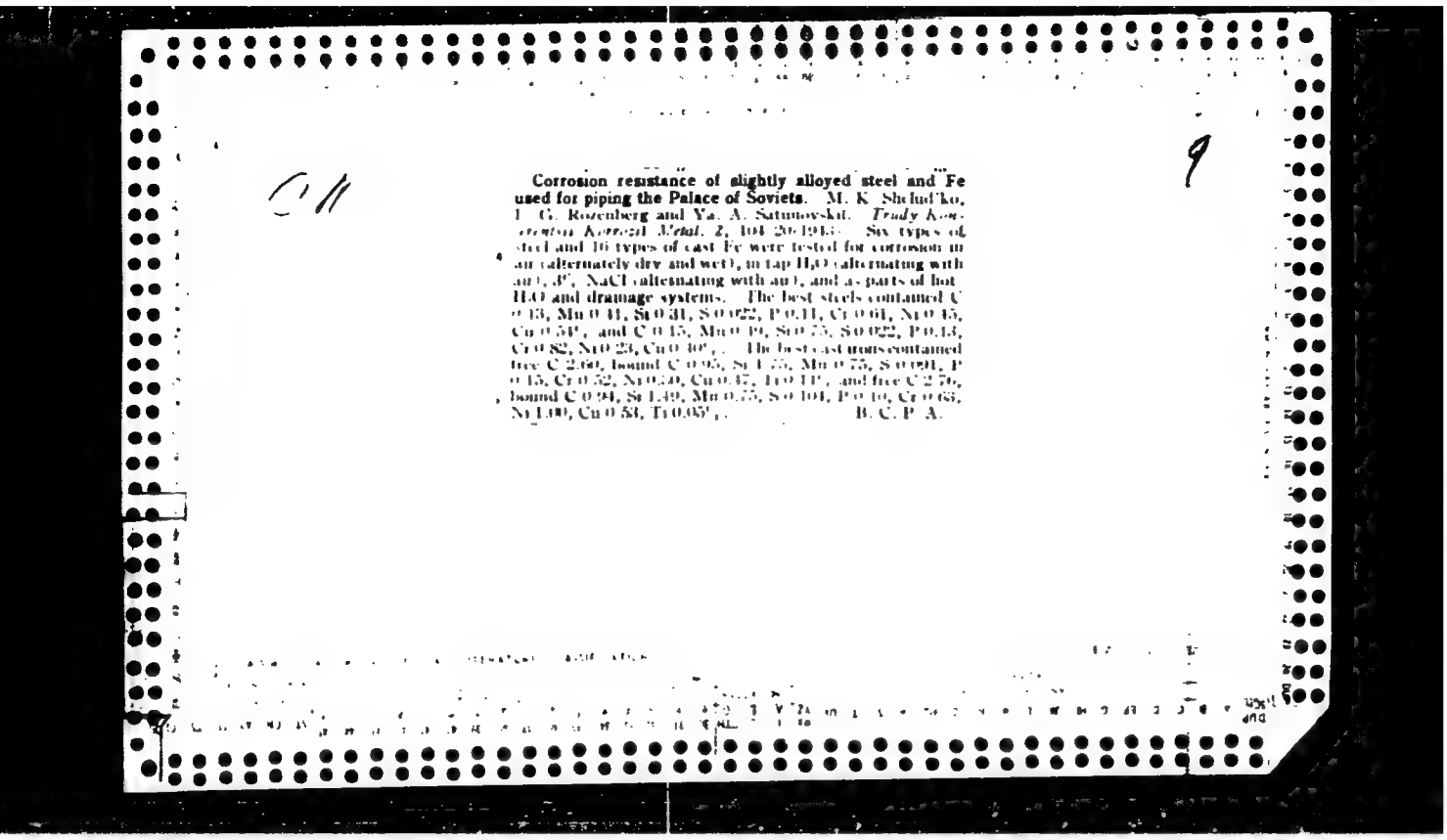
9

The accuracy of corrosion tests. A. S. Afanas'ev and M. K. Shelud'ko. *Korroziya i Bor'ba s Nei.* 7, No. 3, 29 (1941). Ten groups of corrosion tests in atm., H_2O and 3% NaCl were applied to 6811 samples of steel and cast Fe. With n (the no. samples in any test) = 5-7, the min. wt. loss should exceed a certain value for satisfactory accuracy. n depends on the type of test and the material being tested; in the present cases it varies from 30-100 g per sq. m. Increasing accuracy as a result of appreciable prolongation of test over this amt. is less apparent than that due to increasing n. Increasing n over 10 has practically no effect on the accuracy. Generally, only 2 places in the wt.-loss figures are significant. Corrosion samples with an area of about 25-50 sq. cm. ought to be weighed to within 1 mg. if the expected wt. loss is 100 mg per sample.

J. Z. Briggs

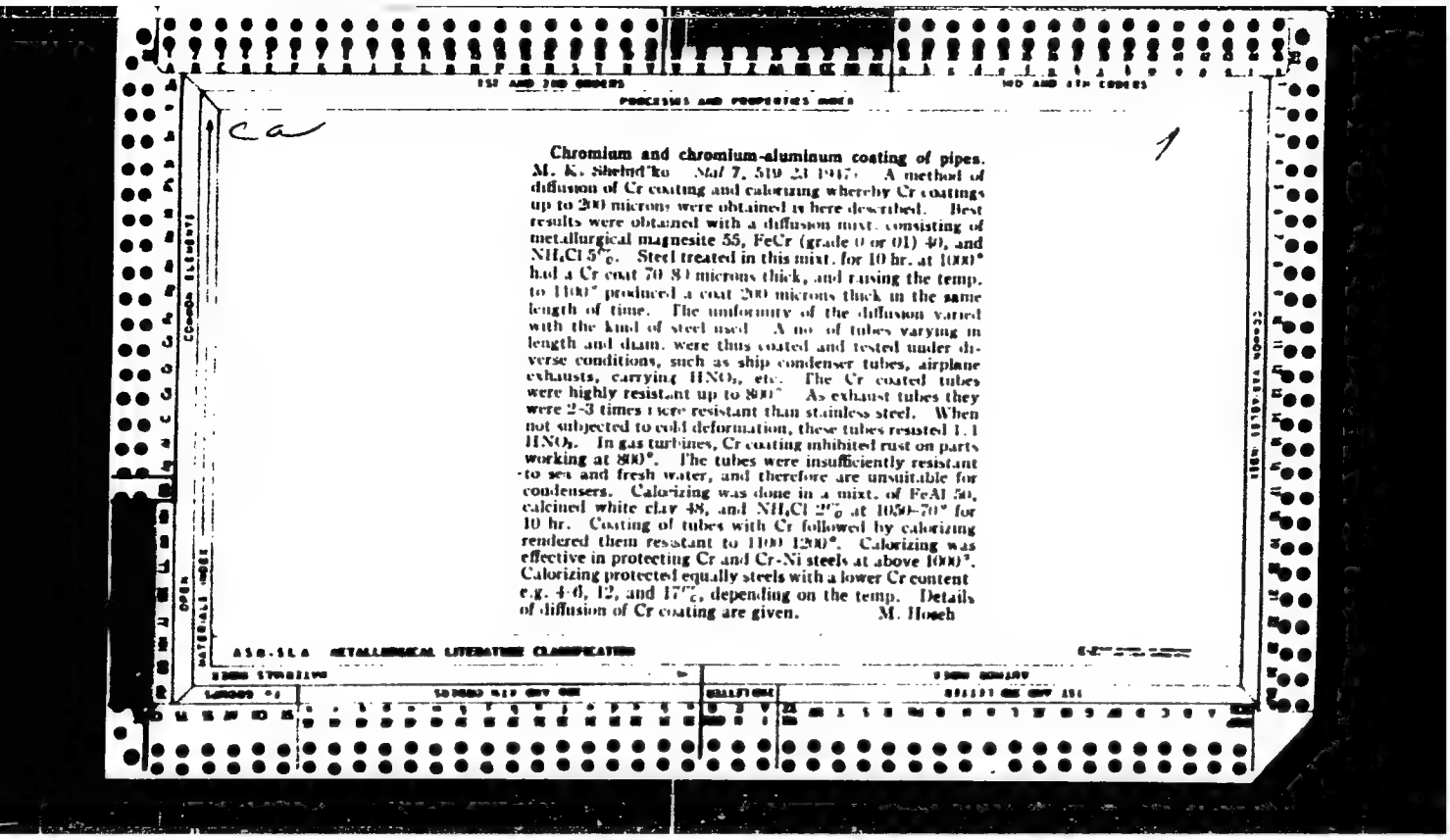
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C11

9

Corrosion resistance of slightly alloyed steel and Fe used for piping the Palace of Soviets. M. K. Shchul'ko, I. G. Rozenberg and Ya. A. Satunovskii. *Trudy Konferentsii Korrozii Metal.* 2, 101-20(1943). Six types of steel and 16 types of cast Fe were tested for corrosion in air (alternately dry and wet), in tap H_2O (alternating with air), 3% NaCl (alternating with air), and a parts of hot H_2O and drainage systems. The best steels contained C 0.13, Mn 0.41, Si 0.31, S 0.022, P 0.11, Cr 0.61, Ni 0.15, Cu 0.54%, and C 0.15, Mn 0.49, Si 0.75, S 0.022, P 0.13, Cr 0.82, Ni 0.23, Cu 0.80%. The best cast irons contained free C 2.60, bound C 0.05, Si 1.55, Mn 0.75, S 0.091, P 0.15, Cr 0.52, Ni 0.30, Cu 0.47, Ti 0.11%, and free C 2.76, bound C 0.94, Si 1.49, Mn 0.55, S 0.101, P 0.10, Cr 0.63, Ni 1.00, Cu 0.58, Ti 0.05%. B. C. P. A.



Chromium and chromium-aluminum coating of pipes. M. K. Shelud'ko. *Stal'* 7, 519-23 (1947). A method of diffusion of Cr coating and calorizing whereby Cr coatings up to 200 microns were obtained is here described. Best results were obtained with a diffusion mixt. consisting of metallurgical magnesite 55, FeCr (grade 0 or 01) 40, and NH_4Cl 5%. Steel treated in this mixt. for 10 hr. at 1000° had a Cr coat 70-80 microns thick, and raising the temp. to 1100° produced a coat 200 microns thick in the same length of time. The uniformity of the diffusion varied with the kind of steel used. A no. of tubes varying in length and diam. were thus coated and tested under diverse conditions, such as ship condenser tubes, airplane exhausts, carrying HNO_3, etc. The Cr coated tubes were highly resistant up to 800°. As exhaust tubes they were 2-3 times more resistant than stainless steel. When not subjected to cold deformation, these tubes resisted 1:1 HNO_3. In gas turbines, Cr coating inhibited rust on parts working at 800°. The tubes were insufficiently resistant to sea and fresh water, and therefore are unsuitable for condensers. Calorizing was done in a mixt. of FeAl 50, calcined white clay 48, and NH_4Cl 2% at 1050-70° for 10 hr. Coating of tubes with Cr followed by calorizing rendered them resistant to 1100-1200°. Calorizing was effective in protecting Cr and Cr-Ni steels at above 1000°. Calorizing protected equally steels with a lower Cr content e.g. 4-6, 12, and 17%, depending on the temp. Details of diffusion of Cr coating are given. M. Hoseh

SHELUD'KO, M. K.

B.M.I. 2348

M. K. Sheludko, Tentative Technological Instructions for the Chromizing of Tubes. STAL, vol. 7, 1947, No. 6, pp. 522-523; 1350 words.

Shelud'ko, M. K.

The kinetics of dry regeneration of ammonia with calcium carbonate and with magnesite. M. K. Shelud'ko, A. I. Chernikov, and T. A. Zhilyaeva (F. E. Dzerzhinskii Chem.-Technol. Inst., Dnepropetrovsk). *Zhur. Prikład. Khim.* 29, 708–13(1958).—Mixts. of powd. NH_4Cl and $CaCO_3$ were ground together and heated in Fe crucibles. The melts were analyzed for Cl^-, NH_4^+, NaOH, and CO_3^{--}. The NH_4Cl content decreased with the temp. of fusion from 200 to 350°, at first rapidly; after 30–45 min. it tended to approach const. values; these were appreciable at 250°. But as the temp. increased it approached zero. It was zero at 300° within 2 hrs.; at 350° it reached zero in 30 min. The log of the rate of decompn. of NH_4Cl *vs.* log of initial NH_4Cl concn. was a linear function. When heated with magnesite the decompn. was complete in 90 min. at 200° and in 20 min. at 250°. It was decompd. at 175° or lower temps.

I. Bencowitz

PM LEH

SHELUD'KO, M. K.

Chem

The kinetics of dry regeneration of ammonia with calcium carbonate and with magnesite. M. K. Shelud'ko, A. I. Chernikov, and T. A. Zhilyaeva. *J. Appl. Chem. U.S.S.R.* 29, 769–73(1956)(English translation).—See *C.A.* 50, 16051c. B. M. R.

LICHIKAKI, V.M.; SHELUD'KO, N.G.; TIMOSHENKO, G.L.

Agroclimatic characteristics of the freezing and thawing of soils in the Ukrainian S.S.R. Trudy UkrNIGMI no.16:23-40 '59. (MIRA 13:6)
(Ukraine--Frozen ground)
(Soil moisture)

KHOMUTOV, N.Ye.; SOROKINA, M.F.; SHELUD'KO, O.V.

Anodic processes in the electrolysis of mixed solutions of borax and soda. Trudy MKHTI no.44:63-66 '64. (MIRA 18:1)

SHELUD'KO, T.F.; AGAFONOVA, T.N.

Staurolites from gneisses in the central part of the Azov region. Min.sbor. no.12:270-279 '58. (MIRA 13:2)

1. Gosuniversitet imeni T.G.Shevchenko, Kiyev.
(Azov region—Gneiss) (Azov region—Staurolite)

SHELUD'KO, T.Kh.

New data on the graphite potential of the Berda Valley. Nauk.zap. Kyiv.un. 16 no.14:127-137 '57. (MIRA 13:4)
(Berda Valley--Graphite)

POGREBNAYA, T.N., kand.ekon.nauk; PRELIND'KO, V.G., inzh.

Role of standardization in the national economy. Mashinostroenie no.4:31-32 Jl-Ag '65. (MIRA 18:8)

BELYY, V.G.; BUGAY, N.V.; IVANOV, V.V.; SHELUD'KO, V.M.

Study of fractures in the drum of a high-pressure boiler and of methods for preventing them from originating. Energ.i elektrotekh.prom. no.4:55-59 O-D '62. (MIRA 16:2)

1. Glavnoye upravleniye energeticheskogo khozyaystva Donetskogo basseyna.

(Boilers)

PORTNOV, A.I.otvetstvennyy redaktor; KNIZHKO, P.O.,redaktor; KRAMARENKO, V.F.,redaktor; NAUMENKO, M.A.,redaktor; PIVNENKO, G.P.,redaktor; ROZENBERG, M.A.,redaktor; SAVITSKIY, I.V.,redaktor; TROTSENKO, A.G.,redaktor; SHELUD'KO, V.M.,redaktor; VAYSMAN, G.A.,redaktor; MEDVEDEVA, N.B.,redaktor; GIMSHTEYN, A.D.,tekhnicheskiy redaktor

[Problems in pharmacy; a collection of scientific papers from pharmaceutical schools of the Ukraine] Nekotorye voprosy farmatsii; sbornik nauchnykh trudov vysshikh farmatsevticheskikh uchebnykh zavedenii Ukrainskoi SSR. Kiev, Gos. med. izd-vo USSR, 1956. 366 p. (MLRA 10:5)

1. Ukraine. Ministerstvo zdravookhraneniya.
(PHARMACY)

USSR/Pharmacology. Pharmacognosy. Toxicology - Medicinal Plants. T-5

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71741

Author : Sheludko, V.M.
Inst :
Title : The Pharmacognostic Investigation of Lavatera Thuringiaca L.

Orig Pub : Nekotoryye voprosy farmatsii, Kiev, gosmedisdat, USSR, 1956, 211-215

Abstract : No abstract

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SHELUD'KO, V.M., dots.

Pharmaceutical education in the Democratic Republic of Vietnam.
Apt.delo 7 no.1:62-65 Ja-F '58. (MIRA 11:3)
(VIETNAM, NORTH--PHARMACY)

SHELUD'KO, V.M.

Development of the drug industry in the Democratic Republic of Vietnam. Med.prom. 12 no.8:60 Ag'58 (MIRA 11:9)
(VEITNAM, NORTH--DRUG INDUSTRY)

TROTSENKO, A.G., otv.red.; PORTNOV, A.I., prof., red.; GORBOV, T.P., red.; YEVDOKIMOV, D.Ya., red.; KNIZHKO, P.O., red.; KORCHINSKIY, N.O., red.; LESHCHINSKIY, A.F., red.; LYASHENKO, S.S., red.; ROZENBERG, M.A., prof., red.; SAVITSKIY, I.V., prof., red.; SHELUD'KO, V.M., red.

[Research in the field of pharmacy] Issledovaniia v oblasti farmatsii. Pod obshchei red. A.I.Portnova. Odessa, M-vo zhdavookhraneniia USSR, 1959. 314 p. (MIRA 13:6)

1. Zaporozhskiy gosudarstvennyy farmatsevticheskiy institut. 2. Kafedra organicheskoy khimii Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Trotsenko). 3. Kafedra farmatsevticheskoy khimii Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Portnov). 4. Kafedra neorganicheskoy i sudebnoy khimii Odesskogo gos.farmatsevt. instituta (for Yevdokimov). 5. Kafedra analiticheskoy khimii Odesskogo gos.farmatsevt.instituta (for Knizhko). Kafedra marksizma-leninizma i organizatsiya farmdela Odesskogo gos.farmatsevt.instituta (for Korchinskiy). 6. Kafedra biokhimii Odesskogo gos.farmatsevt.instituta (for Leshchinskiy). 7. Kafedra farmakognozii i tekhnologii lekarstvennykh form i galenovykh preparatov Odesskogo gos.farmatsevt.instituta (for Lyashenko). 8. Zaveduyushchiy kafedroy fiziologii i farmakologii Odesskogo gos.farmatsevt.instituta (for Rozenberg). 9. Zaveduyushchiy kafedroy biokhimii Odesskogo gos.farmatsevt.instituta (for Savitskiy). 10. Kafedra farmakognozii i botaniki Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Shelud'ko).

(PHARMACY)

SHELUD'KO, V.M.; BABENKO, V.S.

Practical exercises in pharmacognosy. Farmatsev. zhur. 16 no.4:40-41 '61. (MIRA 17:6)

1. Kafedra farmakognozii i botaniki Zaporozhskogo farmatsevticheskogo instituta.

SHELUD'KO, V.M.; BACHMANOVA, N.I.; DOMNICH, M.O. [Domnych, M.O.]

Attestation of pharmacists in Odessa Province. Farmatsev.zhur. 17 no.4:74-75 '62. (MIRA 16:3)
(ODESSA PROVINCE--PHARMACISTS)

SHELUDKO, Vasiliy Mikhaylovich; KOLESNICHENKO, Yuriy Ivanovich [Kolesnychenko, Yu.I.]; ZORISYUK, Yu.G. [Zoryuk, Yu.H.], red.

[Practical manual on pharmacognosy; photochemical analysis] Praktychnyi posibnyk z farmakognozii; fotokhimichnyi analiz. Kyiv, Zdorov'ia, 1965. 197 p. (MIRA 19:1)

Shelud'ko, V. P.

25372
S/089/61/0[illegible]/00[illegible]/010
B102/B214

24.1000

AUTHORS: Blazkov, Yu. Yu., Gerasova, L. A., Dubovskiy, B. G., Krasin, A. K., Kisil', I. M., Kuznetsov, F. M., Serebrennikov, Yu. M., Shelud'ko, V. P., Sharapov, V. N., Pen Fan

TITLE: Investigation of the physical characteristics of the lattice of a uranium - graphite reactor by means of a subcritical insert

PERIODICAL: Atomnaya energiya, v. [illegible], no [illegible], 196[illegible], 5-11

TEXT: This paper gives a description of the experiments carried out since the beginning of 1958 to investigate the physical characteristics of the lattice of a uranium graphite reactor by means of a subcritical insert. A quadratic lattice (period 200 mm) was studied; the graphite block was 2.2m high and had a diameter of 4 m; its holes had diameters of 41 or 75 mm depending on the uranium rods used. Above and below were reflectors, 60 cm thick; the dimensions of the side reflector could be varied according to the composition of the core. The inner and the outer parts of the core

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Investigation of the

were different. The fuel part had always rods of 2% enriched uranium, and the water-moderated part as a part of the latter of the reactor active. The rods of the natural as well as the 2% enriched uranium were [illegible]. To measure the lattice parameters of a reactor of the type 3-1 Beloyarsk GRES (Beloyarsk State Regional Electric Power Plant) ring-shaped sections (1 m long) of the fuel element (up to 1.2% enriched uranium, simulating the real elements were built in the subcritical invert. Each fuel element channel contained six such elements arranged round a central tube. The reactor of the GRES also had vaporization and steam-superheating channels; these were simulated by having the central tube filled with water for the former, and having it without water for the latter. The characteristics of the systems studied were as follows:

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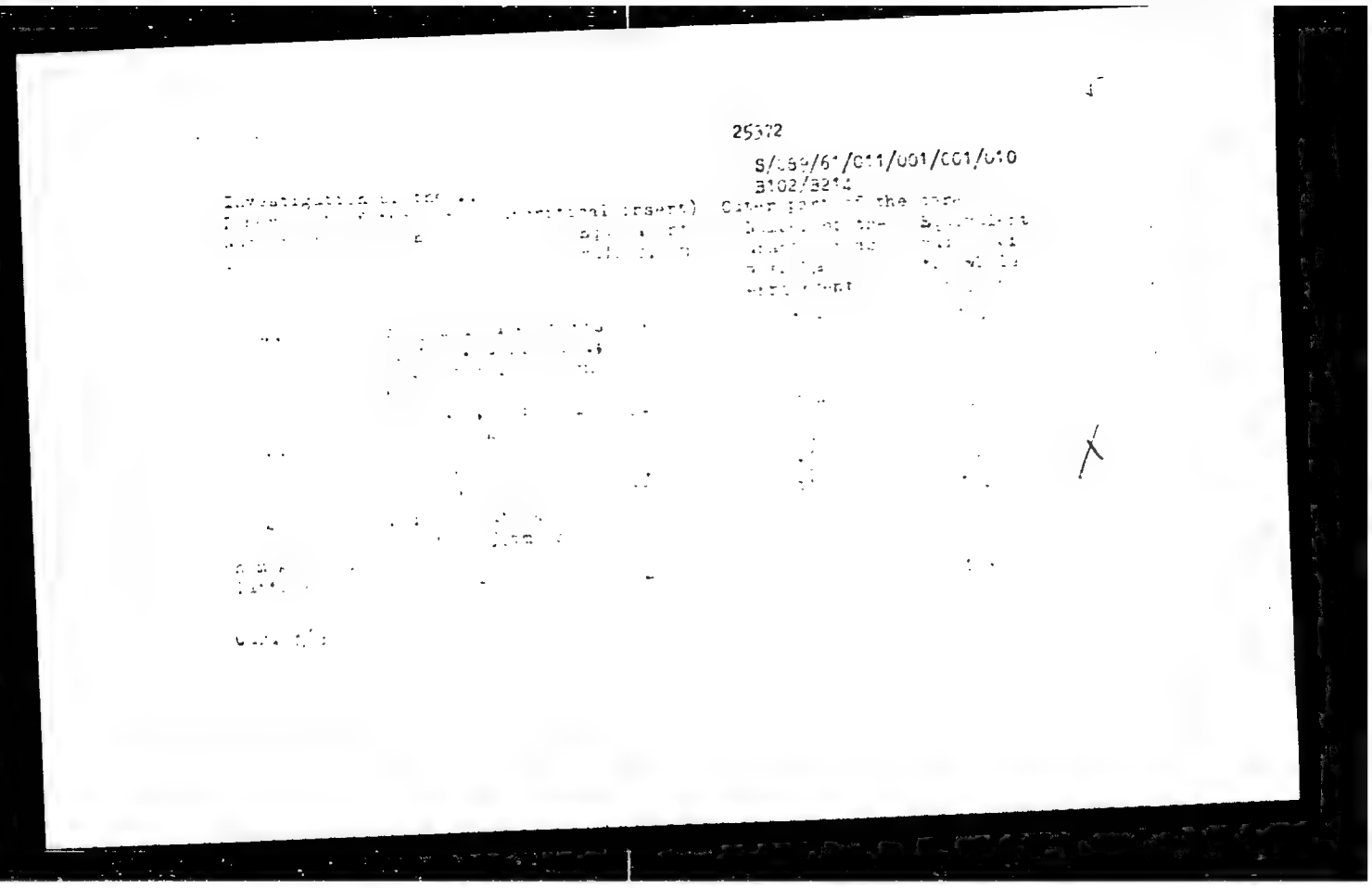

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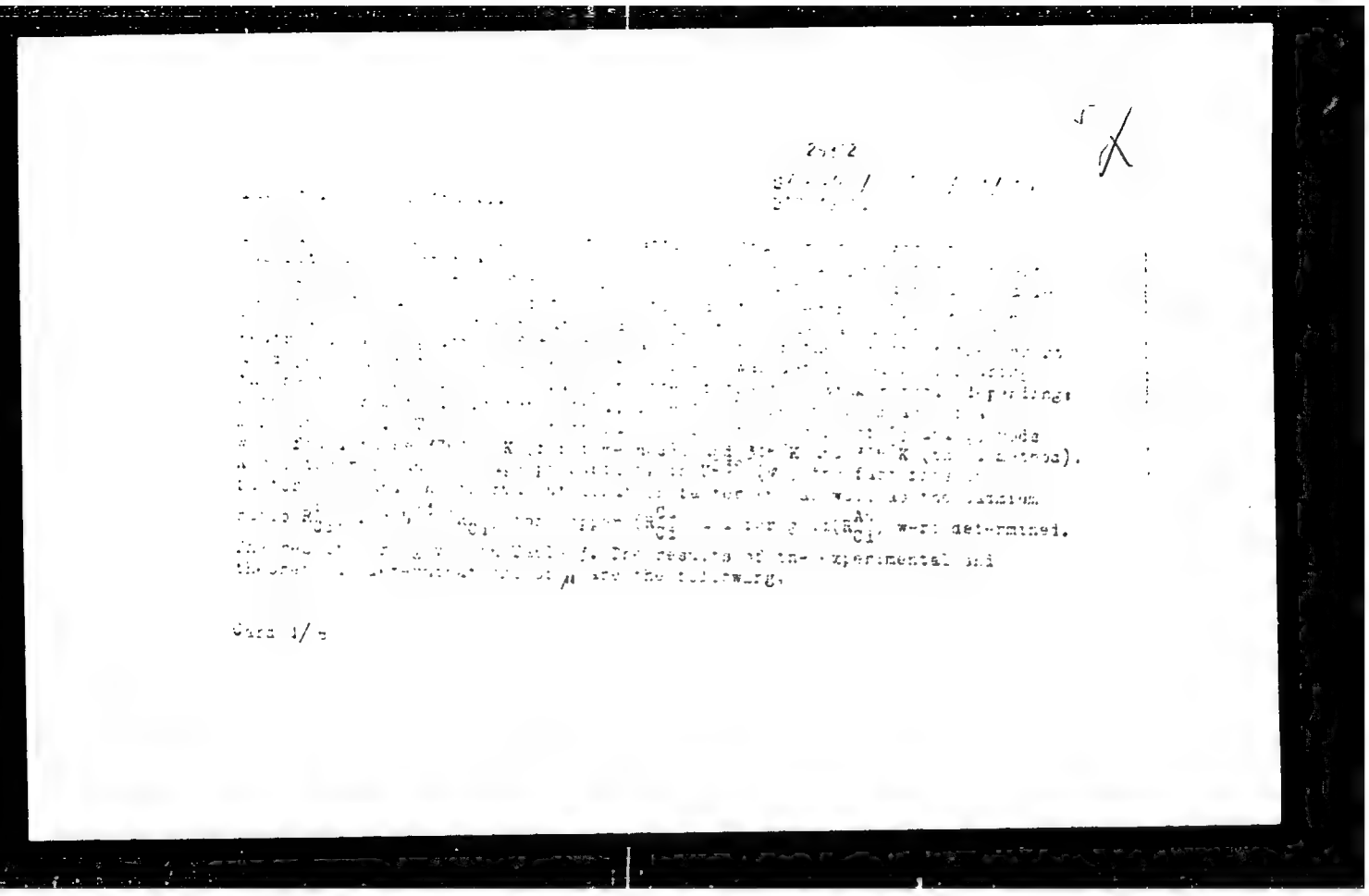

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Investigation of the ...

Position of the channel	Value of μ experimental	Value of μ theoretical
Central channel of an insert of 21 channels with water	1.040±0.006	1.033
One channel with water in the center of a thermal graphite column of 70 cm diameter	1.036±0.005	1.030
Central channel of an insert of 21 channels without water	1.042±0.006	1.035

9 for the IRES type reactor was found to be 0.64 (for channel with water) and 0.65 (without water). It was found that, in order to adjust the neutron spectrum in the center of the subcritical insert so that it is characteristic of the given uranium - graphite lattice, it is necessary so to choose the dimensions of the insert so that its equivalent radius is $\sim\frac{1}{2}\sqrt{(\pi+L^2)}$ cm ($\sqrt{\tau}$ is the slowing down length in the moderator and L the diffusion length). To measure μ it is sufficient to arrange one cell of the lattice under study in the center of the reactor with 2% enriched uranium. The authors thank Ye. F. Makarov, G. M. Vladykov, G. I. Sidorov,

Card 5/8

V. A. Rofanov, V. V. Vavilov, V. A. Semenov, A. N. Galanin, M. V. Bakhtina, L. K. Timonina, A. T. Anfilatov, Yu. S. Ziryukin, Yu. I. Starykh and A. P. Dolgolenko for collaboration; and A. V. Kamayev, M. Ye. Minashin, G. Yu. Romyantsev and I. G. Morozov for their interest and discussions. There are 3 figures, 4 tables, and 12 references: 8 Soviet-bloc and 4 non-Soviet-bloc. The three references to English-language publications read as follows: M. Auche. Nucl. Sci. Engng. 2, No. 1, 96 (1957); D. Klein et al. Nucl. Sci. Engng. 3, No. 4, 493 (1958); J. Volpe et al. Nucl. Sci. Engng. 5, No. 6, 360 (1959).

SUBMITTED: December 12, 1960

Legend to Table 3: 1) number of the cells in the insert, 2) homogeneous lattice, 3) construction of the elements and enrichment of the uranium, 4) ring-shaped elements with water, 1.2%, 5) idem, 6) the same without water, 7) 35 cm thick rods of natural uranium, 8) 35 mm thick rods of 2% enriched uranium, 9) experimental, 10) calculated, 11) in the fuel element (according to fragment accumulation), 12) in the graphite of the central cell, 13) in the fuel element. *calculated according to V.V. Orlov; **in agreement with the measurements of M.B. Yegiazarov.

Card ~~3/3~~

SHELUD'KO, Ya., brigadir tokarey

Our petition to the trade-union organization. Sov. profsoiuzy 7 no.16:41-42 Ag '59. (MIRA 12:12)

1.L'vovskiy avtobusnyy zavod.
(Lvov--Metalcutting)

YAMPOL'SKIY, S.M. [Ampol's'kyi, S.M.], prof.; VENGEROVSKIY, Ye.O. [Venherova'kyi, IE.O.], vrach; ABER, S.Ya., dotsent; SHELUD'KO, Ye.I. [Shelud'ko, IE.I.], vrach; KHODOVA, R.Z., vrach

In memory of O.M.Fedotova. Ped., akush. i gin. 23 no.6:34 '61.
(MIRA 15:4)

(FEDOTOVA, OLENA MYKHAILIVNA, 1884-1960)

[illegible] I.A.

Diagnostic value of cytologic examination of the urine and punctates of renal tumors in children. Lab. delo no.8:478-481 '65. (MIRA 18:9)

1. Kafedra detskoy khirurgii (zav.- prof. A.V. Gabay [deceased]) Pyatigorskogo meditsinskogo instituta.

SKOBETS, Ye.M.; SHELUD'KO, Yu.M.

Polarographic determination of gallic acid. Ukr.khim.zhur. 19 no. 4:439-442 '53. (MLRA 8:2)

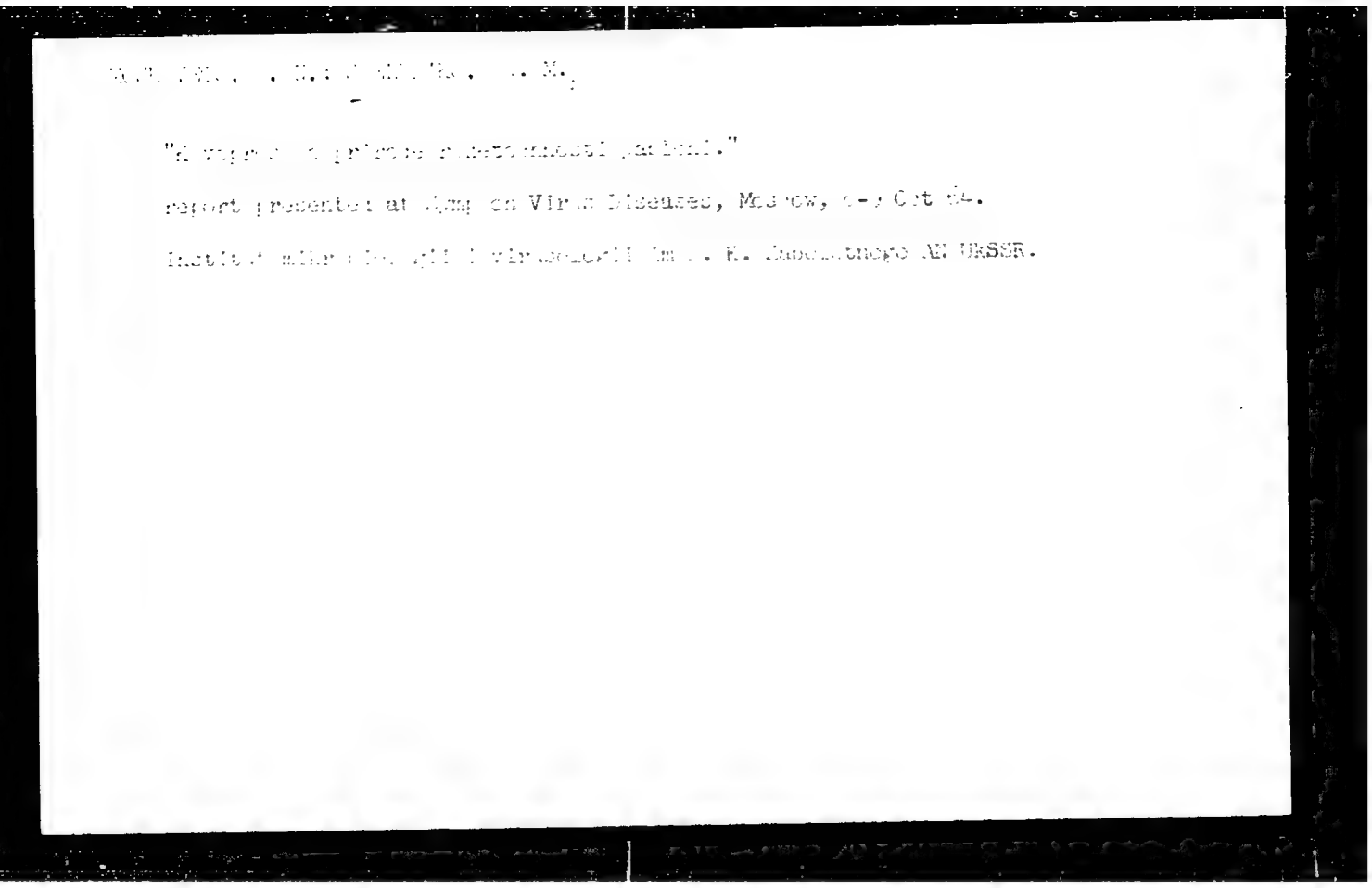
1. Kiyevskiy lesokhozyaystvennyy institut.
(Gallic acid) (Polarograph and polarography)

[redacted], V.V., Cand Biol Sci -- [redacted], "Helminthosporiosis of corn in Zakarpatskaya Oblast, UkSSR, and Elaboration of measures for its control." Kiev, 1958, 18 pp (Min Agr UkSSR. Ukrainian Acad Agr Sci) 150 copies (KL, 40-58, 124)

SHELUD'KO, Yuriy Mikhaylovich, kand. biol. nauk; PERESIPKINA, V.F. [Peresypkina, V.F.], prof., red.; BLANINA, L.F., red.; KVITKA, S.P., tekhn. red.

[Helminthosporiosis in corn] Hel'mintosporioz kukurudzy. Kyiv, Vyd-vo Ukr. Akad. sil's'kohospodars'kykh nauk, 1961. 103 p. (MIRA 15:3)

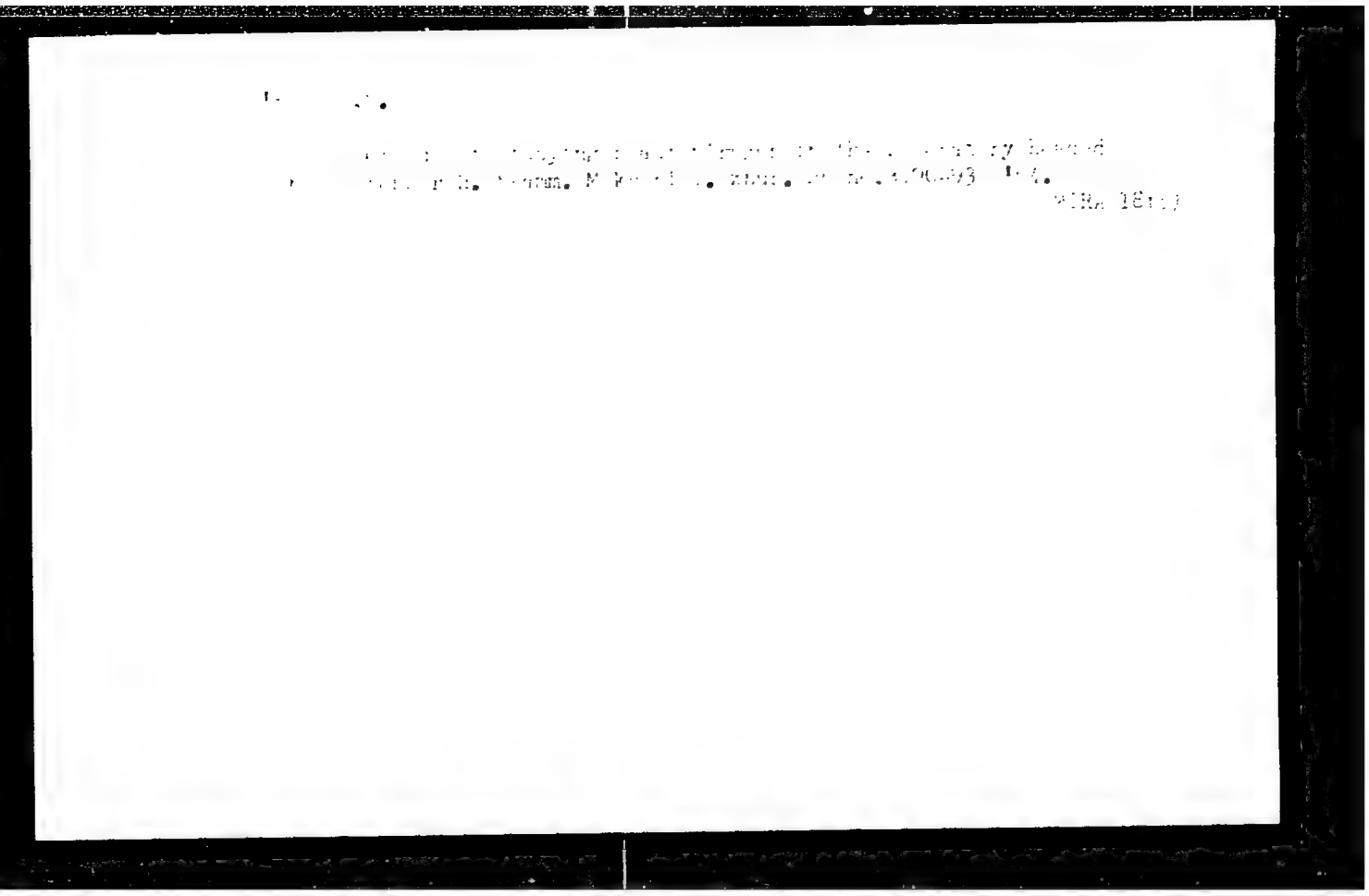
(Corn (Maize))—Diseases and pests)
(Fungi, Phytopathogenic)



"[illegible] problem [illegible]"

report presented at [illegible] on Virus Diseases, Moscow, [illegible] Oct 64.

[illegible] virus[illegible] im. D. I. Ivanovskogo AMN SSSR.



SHELUDKO, Yu.M.

All-Union symposium on the problem "Rosette and little-leaf diseases of apple trees and measures for their control." Mikrobiol. zhur. 26 no.5:93-94 '64. (MIRA 18:7)

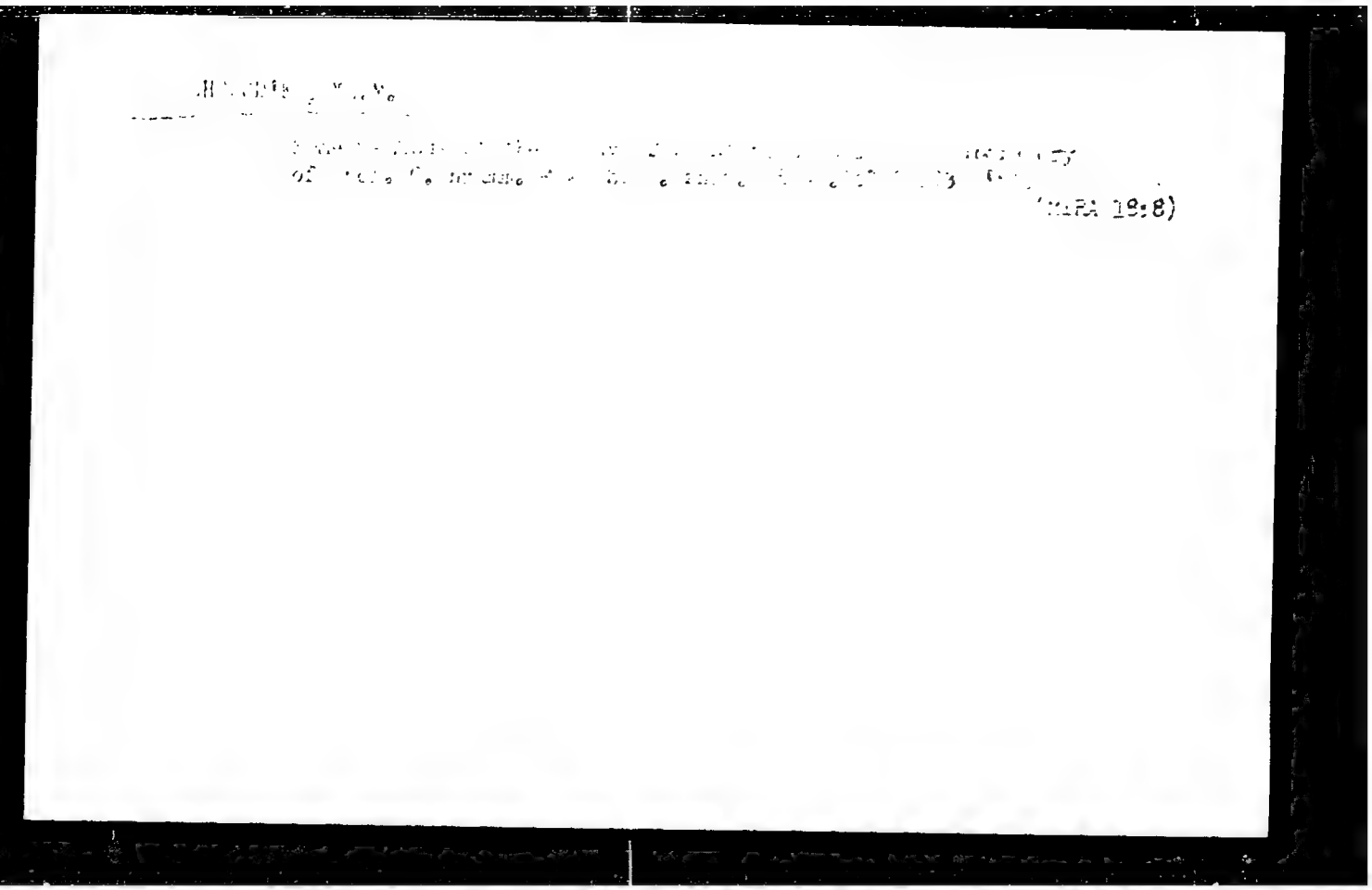
[illegible], Yu.V. [illegible]

Secondary clarification of the plant sap of X-virus infected potatoes on native ion-exchange resins. Mikrobiol. zhur. 27 no.2:78-82 '65. (MIRA 18:5)

1. Institut mikrobiologii i virusologii AN UkrSSR.

SHELUD'KO, Yu.M.

Fourth All-Union Conference on Electron Microscopy.
Mikrobiol. zhur. 26 no.1:82-83 '64. (MIRA 18:11)



[redacted] Ya. V.

... ethods of studying plant viruses in the Laboratory headed ... rofessor H. Shramm (conclusion). Mikrobiol.zhur. 26 no.4:86-88 '64. (MIRA 18:10)

[illegible], S.M.]; KRYVOLAPOVA, A.P. [Kryvolapova, [illegible]]; [illegible], Yu.P.

Improvement in seed qualities and elimination of potato leaf rolling mosaic viruses under Carpathian Mountain conditions. Mikrobiol. zhur. 27 no.4:31-35 '65. (MIRA 18:8)

SHELUD'KOV, A.N. (Moskva)

Gymnastic exercises in clothing enterprises. Shvein. prom. no.3:34-35 My-Je '63. (MIRA 16:8)

[illegible], Nikolay Ivanovich; [illegible], ., red.

[Land improvement and fertilizers] Melioratsiia i unobrenie. Moskva, Kolk. rabochii, 1964. 34 p.
(MIRA 17:7)

Sheludyakov, L. N.

USSR.

Potentials of a mercury cathode and electrolytic decomposition of amalgams of alkaline metals during the electrolysis of their salts. L. N. Sheludyakov, L. A. Saltovskaya, and V. V. Stender. *J. Appl. Chem. U.S.S.R.* 26, 137–44 (1953)(Engl. translation).—See *C.A.* 48, 3168*i*.
H. L. H.

Sheloumyakov, L. N.

4

/ "Alkali-Metal Separation Potentials and Current Yield in Electrolysis at a Mercury Cathode. L. N. Sheloumyakov, L. A. Saltovskaya, and V. V. Stender (*Zhur. Prikład. Khim.*, 1953, 26, (2), 160–169 (in Russian)): *J. Appl. Chem. U.S.S.R.*, 1953, 26, (2), 137–144 (in English)).—The potential of the Hg cathode in electrolysis of aq. soln. of LiCl and NaCl was determined within the following ranges: c.d. 500–4000 amp./m.², temp. 30°–65° C., amalgam concentrations up to 0·33% for Na and up to 0·05% for Li. The main reason for cathodic polarization was found to be slow diffusion of the alkali metal from the surface into the amalgam. The cathode potential was not linearly dependent on log (c.d.), and a rotating vertical Hg cathode gave almost the same values as a horizontal cathode. The current efficiencies over the above ranges of conditions (temp. up to 75° C.) were also determined. High c.d. suppressed the dissolution of alkali metal from the amalgam.—G. V. E. T.

137-1957-12-23312

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, N 12, p 66 (USSR)

AUTHOR: Sheludyakov, L. N.

TITLE: The Cementation of Iron From Silicate Slag by Carbon Dissolved in Pig Iron (Tsementatsiya zheleza iz silikatnogo shlaka uglerodom, rastvorennym v chugune)

PERIODICAL: Izv. AN KazSSR, Ser khim., 1956, Nr 10, pp 58-63

ABSTRACT: The author presents his studies on the reduction of Fe from a silicate smelting, i.e., a slag (S), by the action of carbon dissolved in pig iron (PI). The reduction process occurs in accordance with the following non-reversible reaction, known as "the reaction of cementation" (CM):

$$Fe^{2+}_{slag} + C_{PI} + O^{2-}_{slag} = Fe_{PI} + CO;$$

The S used in the experiment had the following composition (in percent): FeO, 17; Fe_3O_4, 3; SiO_2, 41; CaO, 20; MgO, 11; Al_2O_3, 8; Fe (total), 15. A smelt of identical composition (except for Fe (total), which was 13 percent) was employed. The viscosity of the S, which at 1250° was 53.0 poises decreased with temperature and was less than 8 poises at 1500°. The first

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The Cement. of Iron From Silicate S.ag by Carb. Dissolved in Pig Iron

series of experiments was conducted with the second type of S and with liquid PI, which contained 4 percent Carbon; a temperature of 1500° was maintained in the electric arc furnace, and the carbon consumed during the CM process was not replenished. 450 kg of PI were charged into the furnace, heated and covered with 400 kg of S. After melting, the latter was kept (above the PI) at a temperature of 1500° for a period of 30-40 minutes; it was then poured off and replaced by another batch, which covered the same PI and underwent the same procedure. Thus, the initial batch of the PI was subjected to 32 charges of S. The second series of experiments (with 15 percent Fe in the S) was performed in a Kryptol furnace, at temperatures of 1250, 1300, 1350, and 1400°, with liquid PI, the high carbon concentration of which was constantly maintained by dissolving carbon in the PI. The PI, which at the temperature of the experiment was saturated with C, was placed into a graphite crucible lined with porcelain on the inside. The smelt covering the PI was maintained for 5, 10, 15, 20, 30, 60, and 120 minutes, after which time the crucible was removed from the furnace and immediately cooled by water. During the experiment the PI was in constant contact with the bottom of a graphite crucible.

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137 1957-12-23312

The Cement. of Iron From Silicate Slag by Carb. Dissolved in Pig Iron

Analyses performed at certain stages of the investigation show that if the C consumed in the cementation process is not replenished, the concentration of C in the PI decreases rather rapidly from 4 to 0.16 percent, whereas the concentration of Fe in the S after the CM process varies inversely with the concentration of C in the PI. The experiments of the second series show that the C consumed in the CM process is supplied entirely by the graphite crucible.

A. M.

1. Iron cementation-Theory 2. Furnaces-applications
3. Iron cementation-Test methods 4. Iron cementation-Test results

Card 3/3

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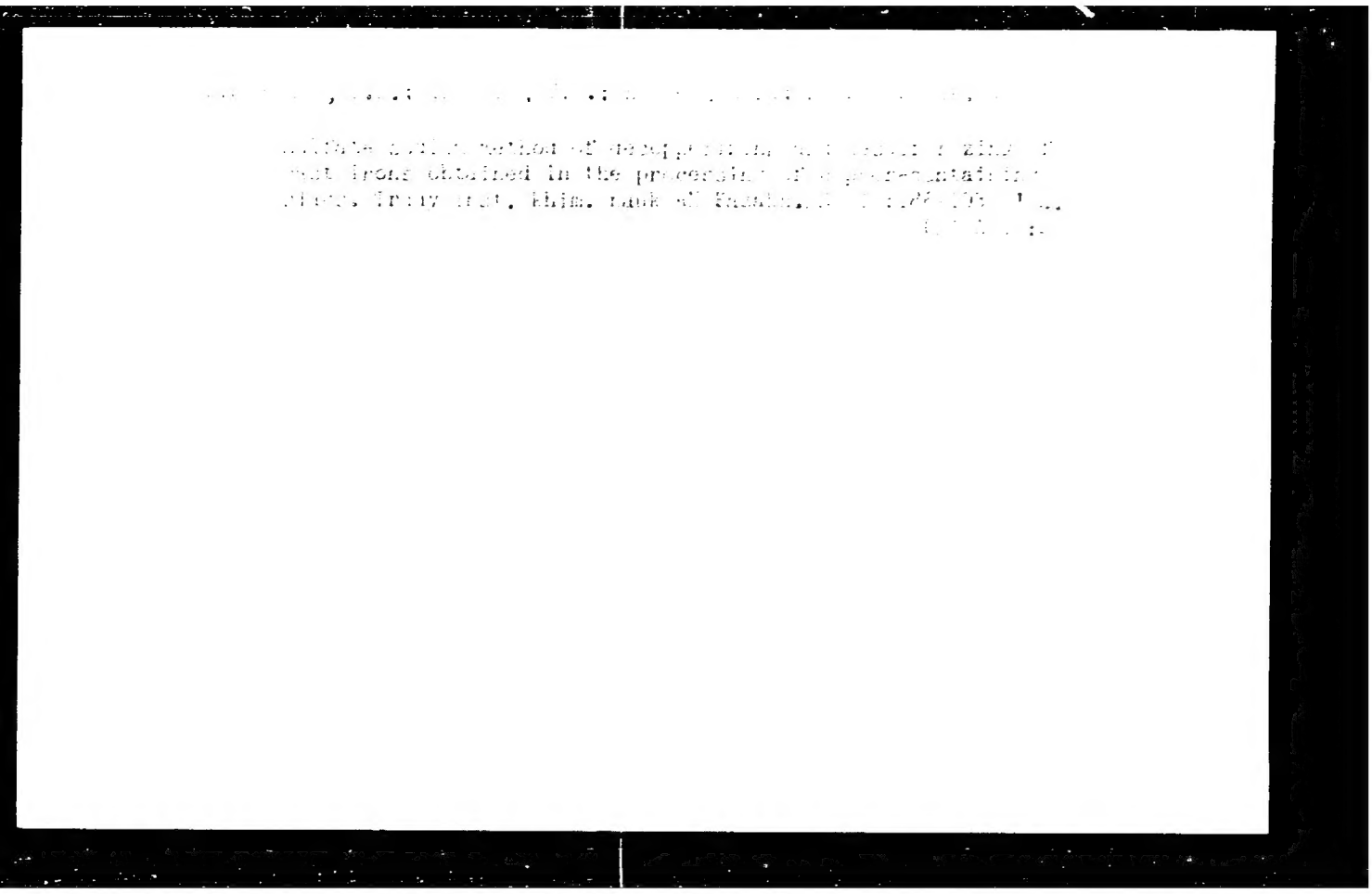

SHELUDYAKOV, N. A. DECEASED o."61 1962/ /7

Construction

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